

Title: Composite Biosorbent For Treatment of
Waste Aqueous Systems Containing Heavy
Metals

Inventor(s): Boddu et al.

Appln. No. N/A Docket No. 6381/22415

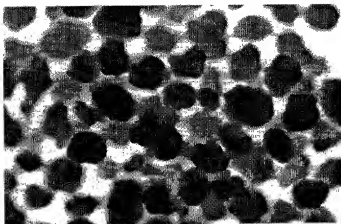


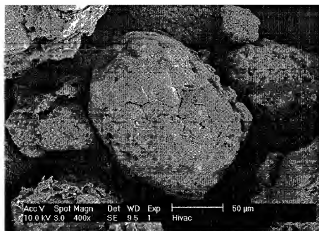
Figure 1: Photomicrograph of the Composite Chitosan Biosorbent showing the gross morphology

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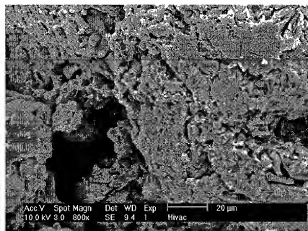
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(a)



(b)

Figures 2(a) and (b): Scanning electron micrographs of the Composite Chitosan Biosorbent at two different magnifications (a) 400X and (b) 800X

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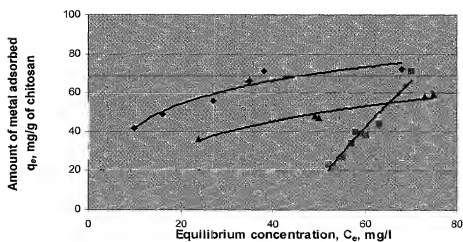
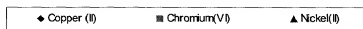


Figure 3. Equilibrium adsorption isotherms for copper(II), nickel(II) and chromium(VI)



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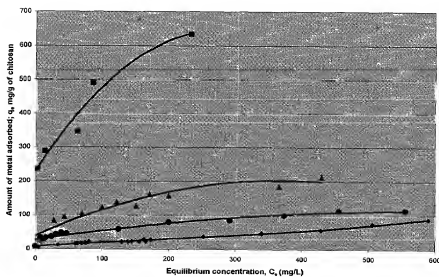


Figure 4: Equilibrium adsorption of arsenic (III), arsenic(V), lead(II), and mercury(II)

◆ Arsenic (III) ● Arsenic (V) ▲ Lead(II) ■ Mercury (II)

Figure 4: Evaluation of the biosorbent of the instant invention in a flow column setup.

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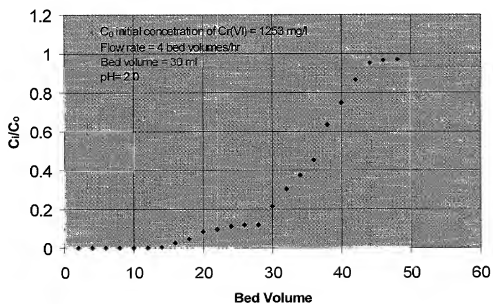


Figure 5. Column adsorption of Cr(VI) from rinsewater collected from a chrome plating facility in Illinois

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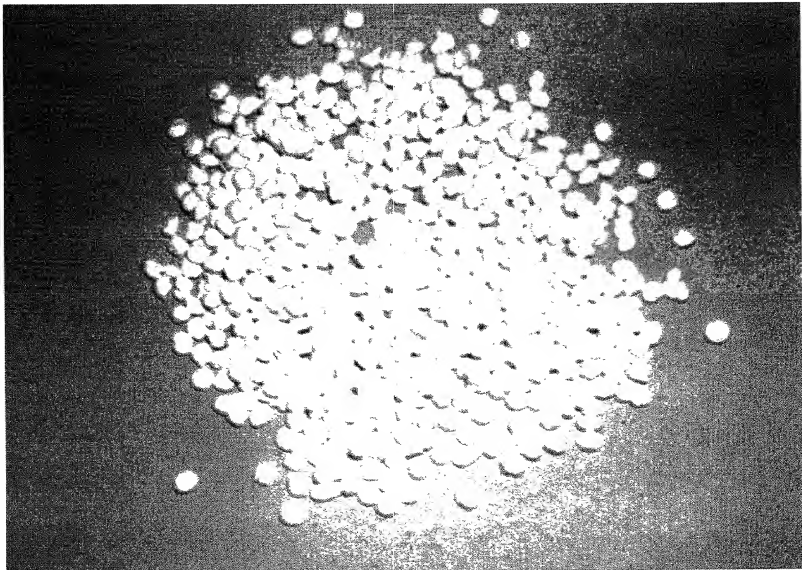


Figure 6: Photomicrograph of the biosorbent of the instant invention utilizing perlite as a support material